



X16758M Final Sequence Feb 2008.ST25.txt
SEQUENCE LISTING

<110> watkins, Jeffry D.
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Huse, William D.
<120> TNF-alpha Binding Molecules
<130> X-16758M
<140> PCT/US04/00290
<141> 2004-01-08
<150> 10/338,552
<151> 2003-01-08
<150> 10/338,627
<151> 2003-01-08
<160> 122
<170> PatentIn version 3.3
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Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Phe Val Gly Ser Ser
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
35 40 45

Lys Tyr Ala Ser Glu Ser Met Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser His Ser Trp His Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

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gatcagtctc caaagctcct catcaagtat gcttctgagt ctatgtctgg ggtccctcg 180
agttcagtgc gcagtggatc tggacagat ttcaccctca ccatcaatag cctggaaagct 240
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<400> 3

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn His
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Gly Glu Ile Arg Ser Lys Ser Ile Asn Ser Ala Thr His Tyr Ala Glu
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Ser
65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Arg Asn Tyr Tyr Gly Ser Thr Tyr Asp His Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
115 120

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X16758M Final Sequence Feb 2008.ST25.txt

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ccagggagg ggctggagtg gggtggcgaa attagatcaa aatctattaa ttctgcaaca 180
cattatgcgg agtctgtgaa agggagattc accatctcaa gagatgattc aaagaactca 240
ctgtacctgc agatgaacag cctgaaaacc gaggacacgg ccgtgttatta ctgtgctaga 300
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Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Phe Val Gly Tyr Ser
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
35 40 45

Lys Tyr Ala Ser Glu Ser Arg Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Ser His Ser Trp His Phe
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

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gatcagtctc caaagctcct catcaagtat gcttctgagt ctaggtctgg ggtccccctcg 180

X16758M Final Sequence Feb 2008.ST25.txt
agtttcagtg gcagtggatc tggacagat ttcaccctca ccatcaatacg cctggaaagct 240
gaagatgctg ccacgtattt ctgtcaacaa agtcatagct ggcatttcac gttcggccaa 300
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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Lys Phe Ser Asn His
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Gly Glu Ile Arg Ser Lys Ser Met Asn Ser Ala Thr His Tyr Ala Glu
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Ser
65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Arg Asn Tyr Tyr Gly Ser Thr Tyr Asp His Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser
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ccagggagg ggctggatg ggttggcgaa attagatcaa aatctatgaa ttctgcaaca 180
cattatgcgg agtctgtgaa agggagattc accatctcaa gagatgattc aaagaactca 240
ctgtacctgc agatgaacag cctgaaaacc gaggacacgg ccgtgttata ctgtgctaga 300

x16758M Final Sequence Feb 2008.ST25.txt

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Arg Ala Ser Gln Phe Val Gly Ser Ser Ile His
1 5 10

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<400> 10
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<400> 11

Arg Ala Ser Gln Phe Val Gly Leu Ser Ile His
1 5 10

<210> 12
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<400> 12
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<210> 13
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<400> 13

Arg Ala Ser Gln Phe Val Gly Met Ser Ile His
Page 5

1

5

10

<210> 14
<211> 33
<212> DNA
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<220>
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<400> 14
agggccagtc agttcggtgg catgagcatc cac

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<210> 15
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<400> 15

Arg Ala Ser Gln Phe Val Gly Tyr Ser Ile His
1 5 10

<210> 16
<211> 33
<212> DNA
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<220>
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<400> 16
agggccagtc agttcggtgg ctatagcatc cac

33

<210> 17
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<400> 17

Arg Ala Ser Gln Phe Val Gly Xaa Ser Ile His
1 5 10

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<400> 19

Tyr Ala Ser Glu Ser Met Ser
1 5

<210> 20

<211> 21

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<400> 20

tatgcttctg agtctatgtc t

21

<210> 21

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<400> 21

Tyr Ala Ser Glu Tyr Met Ser
1 5

<210> 22

<211> 21

<212> DNA

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<400> 22

tatgcttctg agtataatgtc t

21

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X16758M Final Sequence Feb 2008.ST25.txt

<213> Artificial

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<210> 24

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tatgcttctg agnnnatgtc t

21

<210> 25

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<223> Synthetic Construct

<400> 25

Tyr Ala Ser Glu Ser Arg Ser
1 5

<210> 26

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<400> 26

tatgcttctg agtctaggtc t

21

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<400> 27

Tyr Ala Ser Glu Ser Lys Ser
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<210> 28

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<400> 28

tatgcttctg agtctaagtc t

21

<210> 29

<211> 7

<212> PRT

<213> Artificial

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<223> The residue in this position could be any amino acid

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1 5

<210> 30

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<221> misc_feature

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21

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x16758M Final Sequence Feb 2008.ST25.txt

<220>
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Tyr Ala Ser Glu xaa xaa Ser
1 5

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21

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<400> 33

Gln Gln Ser His Ser Trp His Phe Thr
1 5

<210> 34
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caacaaagtc atagctggca tttcacg

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<210> 35
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<400> 35

Gly Phe Thr Phe Ser Asn His Trp Met Asn
1 5 10

x16758M Final Sequence Feb 2008.ST25.txt

<210> 36
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<400> 37

Gly Phe Lys Phe Ser Asn His Trp Met Asn
1 5 10

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<400> 38
ggattcaagt tcagtaacca ctggatgaac 30

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<400> 39

Gly Phe Pro Phe Ser Asn His Trp Met Asn
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x16758M Final Sequence Feb 2008.ST25.txt

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<400> 43

Glu Ile Arg Ser Lys Ser Ile Asn Ser Ala Thr His Tyr Ala Glu Ser
1 5 10 15

val Lys Gly

<210> 44
<211> 57
<212> DNA
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<220>
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<400> 44
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57

X16758M Final Sequence Feb 2008.ST25.txt

<210> 45
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<400> 45

Glu Ile Arg Ser Lys Ser Met Asn Ser Ala Thr His Tyr Ala Glu Ser
1 5 10 15

val Lys Gly

<210> 46
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 46

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57

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val Lys Gly

<210> 48
<211> 57
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x16758M Final Sequence Feb 2008.ST25.txt

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<210> 49
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<400> 49

Glu Ile Arg Ser Lys Ser Ile Asn Ser Ala Thr His Tyr Ala Arg Ser
1 5 10 15

val Lys Gly

<210> 50
<211> 57
<212> DNA
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<220>
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gaaatttagat caaaatctat taattctgca acacattatg cgcgttctgt gaaaggg 57

<210> 51
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<220>
<223> Synthetic Construct

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Glu Ile Arg Ser Lys Ser Ile Asn Ser Ala Thr His Tyr Ala Xaa Ser
1 5 10 15

val Lys Gly

<210> 52
<211> 57
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<400> 53

Asn Tyr Tyr Gly Ser Thr Tyr Asp His
1 5

<210> 54
<211> 27
<212> DNA
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<400> 54
aattactacg gtagtaccta cgaccat 27

<210> 55
<211> 19
<212> PRT
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<400> 55

Glu Ile Arg Ser Lys Ser Met Asn Ser Ala Thr His Tyr Ala Arg Ser
1 5 10 15

Val Lys Gly

<210> 56
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 56
gaaatttagat caaaatctat gaattctgca acacattatg cgcgttctgt gaaaggg 57

<210> 57

x16758M Final Sequence Feb 2008.ST25.txt

<211> 23
<212> PRT
<213> Homo sapiens

<400> 57

Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
1 5 10 15

Glu Lys Val Thr Ile Thr Cys
20

<210> 58
<211> 15
<212> PRT
<213> Homo sapiens

<400> 58

Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile Lys
1 5 10 15

<210> 59
<211> 32
<212> PRT
<213> Homo sapiens

<400> 59

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys
20 25 30

<210> 60
<211> 10
<212> PRT
<213> Homo sapiens

<400> 60

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
1 5 10

<210> 61
<211> 69
<212> DNA
<213> Homo sapiens

<400> 61

gaaattgtgc tgactcagtc tccagacttt cagtctgtga ctccaaaaga gaaagtcacc 60
atcacctgc 69

<210> 62
<211> 45
<212> DNA
<213> Homo sapiens

x16758M Final Sequence Feb 2008.ST25.txt

<400> 62
tggtaaccaggc agaagccaga tcagtctcca aagctcctca tcaag 45

<210> 63
<211> 96
<212> DNA
<213> Homo sapiens

<400> 63
gggggtccctt cgaggttcag tggcagtgga tctgggacag atttcaccctt caccatcaat 60
agcctggaaag ctgaagatgc tgccacgtat tactgt 96

<210> 64
<211> 30
<212> DNA
<213> Homo sapiens

<400> 64
ttcggccaag ggaccaaggt ggaaatcaaa 30

<210> 65
<211> 25
<212> PRT
<213> Homo sapiens

<400> 65

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser
20 25

<210> 66
<211> 14
<212> PRT
<213> Homo sapiens

<400> 66

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Gly
1 5 10

<210> 67
<211> 32
<212> PRT
<213> Homo sapiens

<400> 67

Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Ser Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 68
<211> 11

X16758M Final Sequence Feb 2008.ST25.txt

<212> PRT
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<400> 68

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 69

<211> 75

<212> DNA

<213> Homo sapiens

<400> 69

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tcctgtgcag cctct

75

<210> 70

<211> 42

<212> DNA

<213> Homo sapiens

<400> 70

tgggtccgccc aggctccagg gaaggggctg gagtgggttg gc 42

<210> 71

<211> 96

<212> DNA

<213> Homo sapiens

<400> 71

agattcacca tctcaagaga tgattcaaag aactcactgt acctgcagat gaacagcctg 60

aaaaccgagg acacggccgt gtattactgt gctaga 96

<210> 72

<211> 33

<212> DNA

<213> Homo sapiens

<400> 72

tggggccaag ggaccctggt caccgtctcc tca 33

<210> 73

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Synthetic Construct

<400> 73

Arg Ala Pro Gln Phe Val Gly Ser Ser Ile His
1 5 10

<210> 74

<211> 33

<212> DNA

<213> Artificial

X16758M Final Sequence Feb 2008.ST25.txt

<220>

<223> Synthetic Construct

<400> 74

agggccctc agttcggttgg ctcaagcatc cac

33

<210> 75

<211> 11

<212> PRT

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<223> Synthetic Construct

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> The residue in this position could be any amino acid

<400> 75

Arg Ala Xaa Gln Phe Val Gly Ser Ser Ile His
1 5 10

<210> 76

<211> 33

<212> DNA

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<223> Synthetic Construct

<220>

<221> misc_feature

<222> (7)..(9)

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33

<210> 77

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Synthetic Construct

<400> 77

Arg Ala Ser Gln Phe Val Tyr Ser Ser Ile His
1 5 10

<210> 78

<211> 33

<212> DNA

<213> Artificial

<220>

<223> Synthetic Construct

<400> 78
agggccagtc agttcggtta ttcaaggcatc cac

33

<210> 79
<211> 11
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<221> MISC_FEATURE
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<223> The residue in this position could be any amino acid

<400> 79

Arg Ala Ser Gln Phe Val xaa Ser Ser Ile His
1 5 10

<210> 80
<211> 33
<212> DNA
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<220>
<221> misc_feature
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<223> The nucleotides in these positions could be any nucleotides

<400> 80
agggccagtc agttcgtnn ntcaaggcatc cac

33

<210> 81
<211> 9
<212> PRT
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<220>
<223> Synthetic Construct

<400> 81

Gln Gln Ser His Trp Trp His Phe Thr
1 5

<210> 82
<211> 27
<212> DNA
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<220>
<223> Synthetic Construct

<400> 82
caacaaagtc attgggtggca tttcacg

27

x16758M Final Sequence Feb 2008.ST25.txt

<210> 83
<211> 9
<212> PRT
<213> Artificial

<220>
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<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> The residue in this position could be any amino acid

<400> 83

Gln Gln Ser His Xaa Trp His Phe Thr
1 5

<210> 84
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<220>
<221> misc_feature
<222> (13)..(15)
<223> The nucleotides in these positions could be any nucleotides

<400> 84
caacaaagtc atnnntggca tttcacg

27

<210> 85
<211> 357
<212> DNA
<213> Homo sapiens

<400> 85
tcagcctcca ccaaggccc atcggtttc cccctggcac cttctccaa gagcacctct 60
ggggcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg 120
tcgtggaact caggcgcctt gaccagcggc gtgcacaccc tcccggtgt cctacagtcc 180
tcaggactct actcccttag cagcgtggtg accgtccctt ccagcagctt gggcacccag 240
acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gaaaggcagag 300
cccaaatctt ctactagtgt tctctaccca tatgatgtac ctgattatgc atcatag 357

<210> 86
<211> 324
<212> DNA
<213> Homo sapiens

<400> 86
cgaactgtgg ctgcaccatc tgtcttcatc ttcccgccat ctgatgagca gttgaaatct 60

x16758M Final Sequence Feb 2008.ST25.txt

ggaactgcct	ctgttgtgtg	cctgctgaat	aacttctatc	ccagagaggc	caaagtacag	120
tggaaagggtgg	ataacgcctt	ccaatcggtt	aactcccagg	agagtgtcac	agagcaggac	180
agcaaggaca	gcacctacag	cctcagcagc	accctgacgc	ttagcaaagc	agactacgag	240
aaacacaaag	tctacgcctg	cgaagtcacc	catcagggcc	ttagctcgcc	cgtcacaag	300
agcttcaaca	ggggagagtc	tttag				324
<210> 87						
<211> 10						
<212> PRT						
<213> Artificial						
<220>						
<223> Synthetic Construct						
<400> 87						
Gly Phe Thr Phe Arg Asn His Trp Met Asn						
1	5	10				
<210> 88						
<211> 30						
<212> DNA						
<213> Artificial						
<220>						
<223> Synthetic Construct						
<400> 88						
ggattcactt tccggaacca ctggatgaac						30
<210> 89						
<211> 19						
<212> PRT						
<213> Artificial						
<220>						
<223> Synthetic Construct						
<400> 89						
Glu Ile Arg Ser Lys Ser Ile Asn Ser Ala Thr Phe Tyr Ala Glu Ser						
1	5	10	15			
val Lys Gly						
<210> 90						
<211> 57						
<212> DNA						
<213> Artificial						
<220>						
<223> Synthetic Construct						
<400> 90						
gaaatttagat caaaatctat taattctgca acatttatg cggagtctgt gaaaggg						57

x16758M Final Sequence Feb 2008.ST25.txt

<210> 91
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 91

Asn Tyr Tyr Gly Ser Tyr Tyr Asp His
1 5

<210> 92
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 92
aattactacg gtagttatta cgaccat

27

<210> 93
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 93

Val Thr Thr Gln Phe Val Gly Tyr Ala Ile His
1 5 10

<210> 94
<211> 33
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 94
gttactactc agttcggtgg ctatgctatc cac

33

<210> 95
<211> 7
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 95

Tyr Ala Ser Ser Ser Arg Ser
1 5

<210> 96

x16758M Final Sequence Feb 2008.ST25.txt

<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 96
tatgcttctt cgtcttaggtc t

21

<210> 97
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 97

Gln Gln Ser His Gly Trp Pro Phe Thr
1 5

<210> 98
<211> 27
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 98
caacaaagtc atgggtggcc tttcacg

27

<210> 99
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 99

Gly Phe Lys Phe Arg Asn His Trp Met Asn
1 5 10

<210> 100
<211> 30
<212> DNA
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<220>
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<400> 100
ggattcaagt tccgtaacca ctggatgaac

30

<210> 101
<211> 10
<212> PRT
<213> Artificial

X16758M Final Sequence Feb 2008.ST25.txt

<220>
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<400> 101

Gly Phe Asp Phe Arg Asn His Trp Met Asn
1 5 10

<210> 102
<211> 30
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 102

ggattcgatt tccggAACCA ctggatgaac 30

<210> 103
<211> 19
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 103

Glu Ile Arg Ser Lys Ser Met Asn Ser Ala Thr Phe Tyr Ala Glu Ser
1 5 10 15

Val Lys Gly

<210> 104
<211> 57
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 104

gaaatttagat caaaatctat gaattctgca acatTTATG cggagtctgt gaaAGGG 57

<210> 105
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 105

Ala Ala Ser Gln Phe Val Gly Gln Ala Ile His
1 5 10

<210> 106

x16758M Final Sequence Feb 2008.ST25.txt

<211> 33
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<213> Artificial

<220>
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<400> 106
gcggcttctc agttcggtgg ccaggcgatc cac

33

<210> 107
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<220>
<223> Synthetic Construct

<400> 107

Tyr Ala Asn Glu Ser Arg Ser
1 5

<210> 108
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 108
tatgctaatg agtcttaggtc t

21

<210> 109
<211> 39
<212> DNA
<213> Artificial

<220>
<223> Synthetic Construct

<400> 109
tggctcccaag gtgccaaatg tgaaattgtg ctgactcag

39

<210> 110
<211> 21
<212> DNA
<213> Artificial

<220>
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<400> 110
tggctcccaag gtgccaaatg t

21

<210> 111
<211> 21
<212> DNA
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<220>

X16758M Final Sequence Feb 2008.ST25.txt

<223> Synthetic Construct

<400> 111
gacagatgtt gcagccacag t

21

<210> 112
<211> 39
<212> DNA
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<220>
<223> Synthetic Construct

<400> 112
ctctccacag gtgtccactc ccaggtccaa ctgcaggtc

39

<210> 113
<211> 21
<212> DNA
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<220>
<223> Synthetic Construct

<400> 113
ctctccacag gtgtccactc c

21

<210> 114
<211> 21
<212> DNA
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<220>
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<400> 114
gaagaccgat gggcccttgg t

21

<210> 115
<211> 450
<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 115

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Asn His
20 25 30

Trp Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Gly Glu Ile Arg Ser Lys Ser Ile Asn Ser Ala Thr Phe Tyr Ala Glu
50 55 60

X16758M Final Sequence Feb 2008.ST25.txt

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Ser
65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95

Tyr Cys Ala Arg Asn Tyr Tyr Gly Ser Tyr Tyr Asp His Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro Lys Ser Cys Asp
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu
325 330 335

x16758M Final Sequence Feb 2008.ST25.txt

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro
435 440 445

Gly Lys
450

<210> 116
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<212> PRT
<213> Artificial

<220>
<223> Synthetic Construct

<400> 116

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Val Thr Thr Gln Phe Val Gly Tyr Ala
20 25 30

Ile His Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Tyr Ala Ser Ser Ser Arg Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser His Gly Trp Pro Phe
85 90 95

X16758M Final Sequence Feb 2008.ST25.txt

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr
115 120 125

Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys
130 135 140

Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu
145 150 155 160

Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser
165 170 175

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala
180 185 190

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe
195 200 205

Asn Arg Gly Glu Cys
210

<210> 117

<211> 39

<212> DNA

<213> Artificial

<220>

<223> Synthetic Construct

<400> 117

tggctccag gtgccaaatg taaaattgtg ctgactcag

39

<210> 118

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Construct

<400> 118

tggctccag gtgccaaatg t

21

<210> 119

<211> 21

<212> DNA

<213> Artificial

<220>

<223> Synthetic Construct

<400> 119

gacagatgg tgcagccacag t

21

x16758M Final Sequence Feb 2008.ST25.txt

<210> 120	
<211> 39	
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<223> Synthetic Construct	
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ctctccacag gtgtccactc ccaggtccaa ctgcaggc	39
<210> 121	
<211> 21	
<212> DNA	
<213> Artificial	
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<223> Synthetic Construct	
<400> 121	
ctctccacag gtgtccactc c	21
<210> 122	
<211> 21	
<212> DNA	
<213> Artificial	
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<223> Synthetic Construct	
<400> 122	
gaagaccgat gggccttgg t	21